1. (Twice Amended) A method for producing stable cell lines of mammalian neural precursor cells *in vitro*, comprising the steps of:

a) preparing a culture of neural precursor cells in a serum-free medium;

b) culturing the neural precursor cells in the presence of a first mitogen, wherein said first mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα and combinations thereof;

c) introducing a c-myc construct into the cells,

wherein the c-myc construct is comprised of a c-myc cDNA fused with at least one element selected from the group consisting of DNA for a ligand binding domain for an estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor; and

d) further culturing the cells in a medium containing the first mitogen and a second mitogen,

wherein said second mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα, serum and combinations thereof, with the proviso that the second mitogen is other than the first mitogen, [and]

wherein said medium containing the first mitogen and the second mitogen further comprises a myc-activating chemical selected from the group consisting of β-estradiol, RU38486, dexamethasone, thyroid hormones, retinoids, and ecdysone, and

wherein said stable cell lines maintain normal karyotypes and normal neuronal phenotypes beyond thirty cell doublings.

12. (Twice Amended) A method for producing stable clonal cell lines of mammalian neural precursor cells *in vitro*, comprising the steps of:

a) preparing a culture of neural precursor cells in a serum-free medium;

b) culturing the neural precursor cells in the presence of a first mitogen, wherein said first mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα and combinations thereof;

c) introducing a c-myc construct and a selectable marker into the cells,

wherein the c-myc construct is comprised of a c-myc cDNA fused with at least one element selected from the group consisting of DNA for a ligand binding domain for an

estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor;

d) further culturing the cells in a medium containing the first mitogen and a second mitogen, wherein said second mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα, serum and combinations thereof, with the proviso that the second mitogen is other than the first mitogen,

wherein said medium containing the first mitogen and the second mitogen further comprises a myc-activating chemical selected from the group consisting of β-estradiol, RU38486, dexamethasone, thyroid hormones, retinoids, and ecdysone; and

e) collecting c-myc treated cells and co-culturing them with feeder cells free of the selectable marker and capable of supporting survival of the c-myc treated cells in a medium containing the first mitogen and the second mitogen, with the proviso that the second mitogen is other than the first mitogen,

wherein said stable clonal cell lines maintain normal karyotypes and normal neuronal phenotypes beyond thirty cell doublings.